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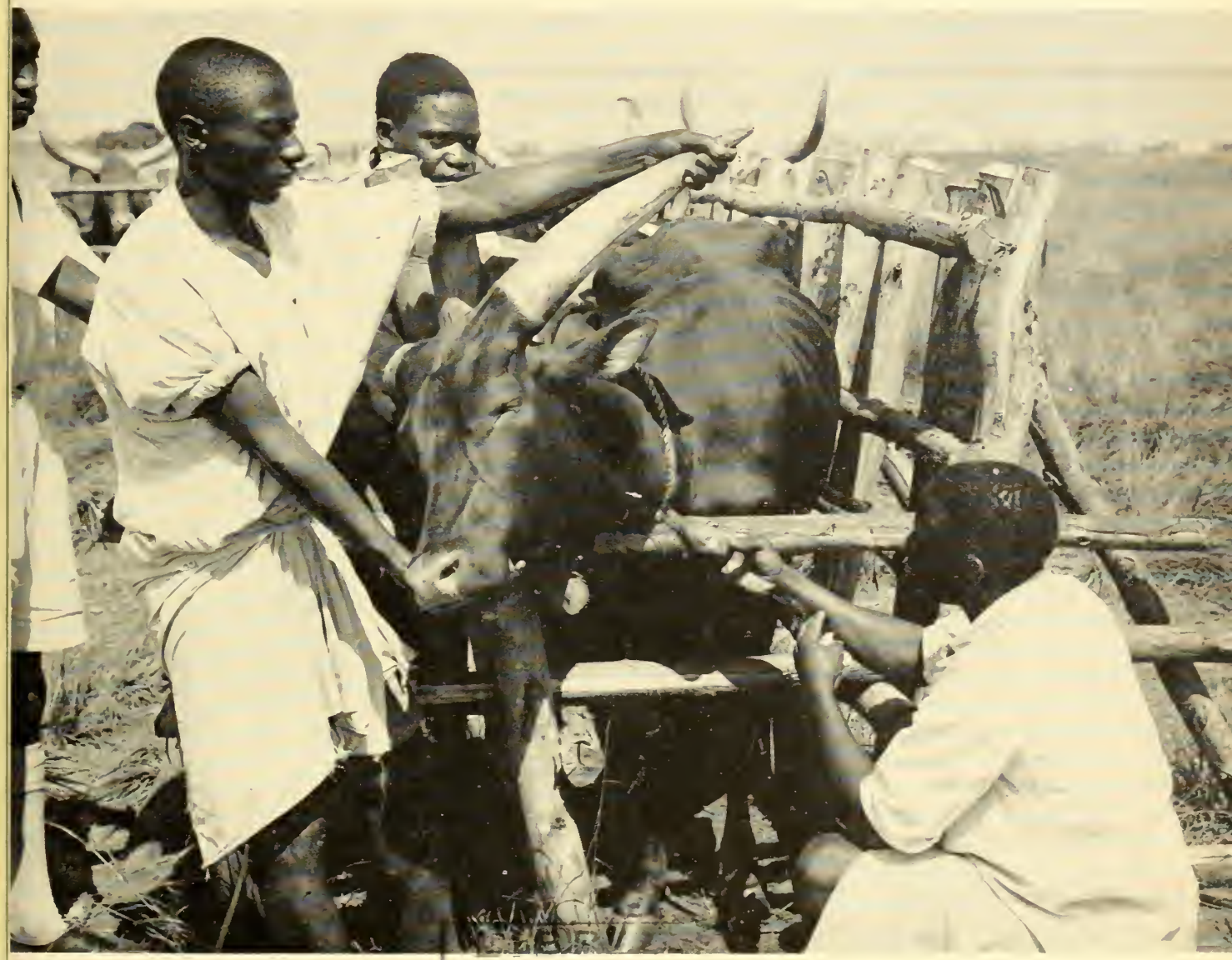

Veterinary research, Uganda

Impressions of Agriculture in the Soviet Union
Agricultural Technology in the World's Underdeveloped Areas
The 1958 Trade Agreements Act

UNITED STATES DEPARTMENT OF AGRICULTURE • FOREIGN AGRICULTURAL SERVICE

FOREIGN AGRICULTURE

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To report and interpret world agricultural developments.

Crusade Against Poverty

More exciting than man's efforts to reach the moon and certainly more pertinent to world affairs in the second half of twentieth century is the crusade that the underdeveloped areas of the world are waging against poverty.

In seeking a way out, they are determined to end illiteracy, to raise the income level, and to build up industry. And they are resolved to develop their agriculture so that it may properly feed and clothe their people.

In this they have a long way to go. With 70 percent of the world's people, they produce half of the world's agricultural products. The other half is produced by the industrialized nations, with only 30 percent of the world's population.

Such disparity presents almost insurmountable problems. Yet, as our article on page 6 points out, the benefits of agricultural technology are slowly being realized in the less advanced agricultural areas. The industrialized nations have been partners in this endeavor, supplying men, money and tools. Much of the credit, though, must go to the countries themselves who are doing a fine bit of bootstrap-pulling.

Cover Photograph

Ankole bull submits patiently to having blood taken for research purposes at Entebbe Veterinary Research Station, Uganda. What progress the world's underdeveloped areas are making in farm technology is told on page 6.

In This Issue

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Harvesttime at collective farm near Taganrog, with typical Soviet combine in background. Right, modern grain elevators, 4,500-metric-ton capacity, in Crimea.

Impressions of Agriculture In the Soviet Union

This past summer the United States and the Soviet Union opened their doors to a freer exchange of information on agriculture. While U.S. technicians and scientists were visiting the USSR, Soviet groups were observing our farm practices. *Foreign Agriculture* will publish the preliminary reports of the U.S. groups. The following is the first, prepared by Dr. Sherman E. Johnson, who headed the economics delegation.

THE U.S. AGRICULTURAL economics group arrived in Moscow the evening of July 4. When we left on August 4, we had traveled about 12,000 miles within the Soviet Union, visiting farms, research stations, and other agricultural enterprises in 10 major farming regions. Although we obtained much specific information on agriculture in the areas visited as well as for the nation as a whole, this report is largely confined to general impressions concerning Soviet agriculture. A more detailed report will be prepared later.

Farming in the Soviet Union is organized into large-scale collective and state-operated farms. On January 1, 1958, there were 76,500 collective farms averaging 4,200 acres of land in crops, with about 250 households per farm. There were also 5,900 farms operated by the state. These averaged 25,200 acres in crops and nearly 400 full-time workers to each farm.

On the state-operated farms, the workers are paid cash wages, with bonus payments for high performance. In addition, they have small garden allotments and the privilege of keeping a cow, a pig or two, chickens, geese, and sometimes a couple of sheep or goats. On the collective farms, the workers share in the net income from operations in accordance with the days worked as well as in a previously established system of remuneration for different types of work; and they frequently receive bonus rewards for special efforts. Workers on collective farms also have garden allotments and the privilege of keeping individually owned livestock.

The farm people live in villages, with their individual allotments of land usually extending back of each house. Consequently, there are no individual farmsteads dotting the countryside as there are in the United States.

Size of Farms

In the process of organizing the large collective and state farms, the land was consolidated into huge fields wherever the terrain would permit. The first impression one gets of the major grain areas is of a vast expanse of wheat, with some sprinkling of corn, sunflowers, and other minor crops. In some areas, shelterbelts of trees have been planted to break the force of the wind and to hold the snow cover. In the naturally forested areas of the north, the fields are smaller, and the terrain is broken up by streams, ponds, and wooded hills; the farms also tend to be smaller.

The organization of farming is so different from the prevailing family-operated farm in the United States that it is difficult to appraise the advantages and disadvantages of large-scale operation. In our country, there are few advantages to be gained from a farm larger than one that can utilize efficiently modern machinery and other improved practices adapted to the type of farming. It is true that a capable manager may obtain a larger management return by handling two or more such units, but at some stage the management is spread too thin to offset the

disadvantage of supervising a larger number of workers, the traveling distance to work, and other factors associated with size. Although agricultural workers in the Soviet Union stress economy of scale in discussing sizes of farms, the present sizes probably are influenced more by other criteria than by economy of scale.

Almost always, several villages are included within the boundaries of one collective or state farm. The farms we visited contained from 170 to as many as 2,000 "households." The farm managers thus have a large labor force to direct and to attempt to utilize productively. A collective grain farm which we visited in the "new lands" region had over 100,000 acres of land, and more than 70,000 acres of cropland, extending over a distance of 24 miles. Another farm in the same area was described as including 185,000 acres of cropland.

Mechanization

Considerable progress has been made in mechanization of agriculture. This is most striking in operations that lend themselves to use of heavy duty equipment, such as plowing and harvesting. Use of tractor power and large-scale equipment has made possible a vast program of new land development that began in 1953. This program involved an increase of about 90 million acres of plowland, mostly east of the Ural Mountains, in Kazakhstan, and western Siberia. Mechanization also has aided in increasing output in the older agricultural areas. So far, however, the various steps in mechanized farming are not fully integrated. For example, although wheat production is mechanized through harvesting, there seems to be little provision for mechanized cleaning, drying, and storage of grain.

Meat and Milk

Production of meat and milk is being increased in all the areas that were visited. Many of the placards and other appeals to farm people to increase production of meat and milk are in terms of surpassing the United States in total production. New dairy barns, hog houses, and poultry houses have been built; and milking machines and feed and litter carriers have been installed. But buildings do not appear to be well located from the standpoint of labor economy. For example, silos frequently are located some distance from the barn.

In many areas, the cows are stall-fed all through the year. Green feed is harvested and brought to the barns. These practices tend to economize on land, but they require much extra labor. Even in the areas where cows are on pasture in the summer, the pastures are not fenced, and much time is consumed in herding cattle.

In dairy-cattle breeding work, emphasis is given to size of animal and butterfat content of the milk. Butter production is given primary emphasis, with secondary attention to nonfat milk solids for human consumption.

Grain and Oilseeds

The 1958 crop season has been very favorable for small grains, and production is expected to be above average in most areas. At the time of our visit, the crop prospects were excellent in the new lands regions. However, the new lands are located in areas subject to highly variable climatic conditions and are somewhat comparable with the western margins of our Northern Great Plains, or perhaps even more with the Canadian plains. In fact, limited and variable rainfall is the chief obstacle to continued high production in the more productive soil areas of the Soviet Union. In many northern areas, production is limited by short growing season, poor soil, and broken terrain.

The overall plan for agriculture seems to include greater dependence on the new land areas for food grain production, and relatively greater emphasis on feed, forage, and industrial crops in the older agricultural areas. Livestock production is being expanded in all areas, however, and one of the major problems is how to provide adequate feed for a larger livestock population. Corn production has been given special emphasis in the past 3 or 4 years—for both grain and forage in the southern areas, and for forage in the northern areas. The 1958 growing season was not favorable for corn in the northern areas, and perhaps the crop has been extended beyond the limits of climatic adaptation even for forage. In the drier southern areas, perhaps grain sorghums would be better than corn.

Sunflowers are grown on about 11 million acres. As the principal oil crop in the Soviet Union, they are given high priority among the industrial crops and furnish 60 percent of the oil supply. Production increases are also planned in flax for oil and in castor beans, following recent progress in mechanization of this crop.

Planning

Apparently, most of the virgin land suitable for cultivation without major expenditure for clearing, drainage, or irrigation has now been developed. There is some discussion of breaking an additional 9 million to 10 million acres of sod, but these lands would be even more hazardous than those already developed. It is recognized that eventually larger acreage will have to be devoted to summer fallow to help stabilize crop yields in the drier areas.

Although expenditures will be made for clearing, drainage, and irrigation of additional land, the most important immediate plans call for large increases in production of commercial fertilizer and for other attempts at increasing yields per acre.

So far, the potential gains from regional specialization in production seem to have been relatively neglected. For example, the northern podsolic soil areas are probably best suited for forage and livestock production. Perhaps more of the emphasis on increases in milk and poultry production could be centered on those areas rather than spread over the entire country.

To some extent, greater regional specialization in production depends on development of all-weather roads and on a system of transport that permits rapid shipment of perishable products from farms to markets in other areas. Although many farms are large enough to establish economical facilities for primary processing of many farm products, such integration has not developed to any large extent.

Procurement and Pricing

Recent changes in state procurement and pricing of farm products provide a more direct system of remuneration to families on collective farms. Formerly, the state procured basic quantities of farm products at one level of prices,

(Continued on page 22)

Left, Russian farm woman presents bouquet to Dr. Sherman Johnson, USDA economist. Above, winnowing wheat with paddles on collective near Krasnodar, a typical Soviet scene.

Soviet Farm Scenes By USDA Cameraman

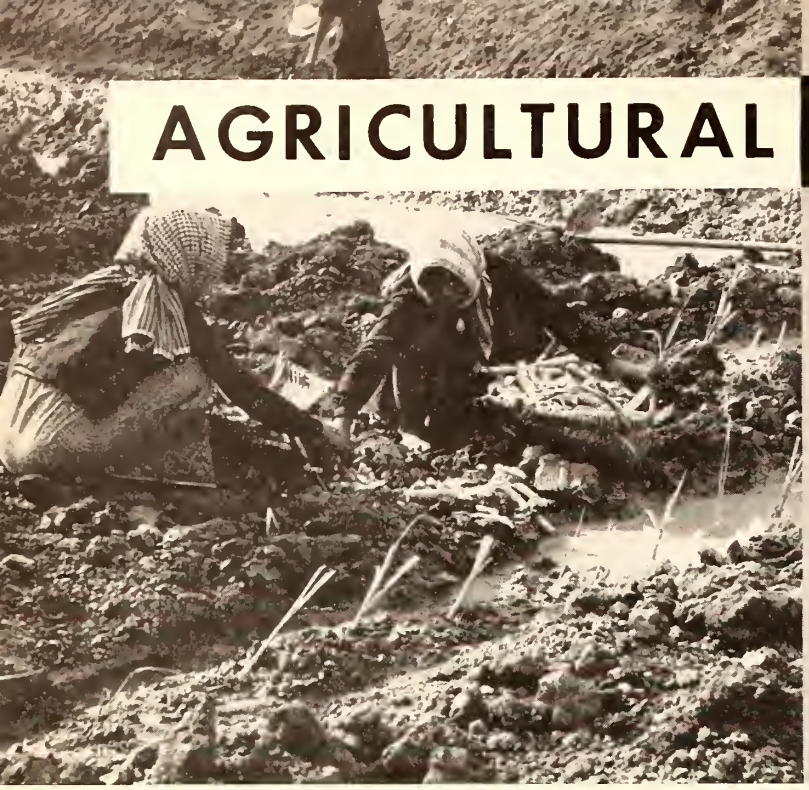
Harold Wingo, USDA cinematographer, accompanied the U.S. agricultural economists on their trip to Russia. There he had considerable freedom to photograph what he wanted. Women, he found, do a large part of the farm work, as these pictures testify. He was also impressed by the amount of hand labor done, how much corn is grown, and the vast size of the state and collective farms.

Russian girl proudly displays white leghorn rooster from her flock on Bolshevik State Farm, near Leningrad. Left, ducks, common in Russia, in feeding pens on same farm.

Portable grain cleaner and aerator used for wheat too wet for storage.

At research station bar holds cow in stall, lifts when milking is completed.

Dairy barns behind workers house 428 cows, hand-milked by 32 Soviet women.



AGRICULTURAL TECHNOLOGY

In the World's Underdeveloped Areas

By WILHELM ANDERSON
Foreign Agricultural Analysis Division
Foreign Agricultural Service

THE WORLD'S economic development during the past two decades owes much to the rapid rise in agricultural production through improved technology. How these technological advances have affected the agriculture of such countries as the United States and Canada is clearly evident and well understood. Less known, but of considerable importance to us from the standpoint of formulating domestic and foreign policies, is the impact of technology on agriculture in the underdeveloped countries, particularly those countries where increases in agricultural production are most needed to keep pace with rapid increases in population.

World agriculture falls into two broad categories. The first is the agriculture of the Temperate Zones, in rather well-developed, economically advanced countries, where a considerable share of production is commercial. The second is the agriculture of the rest of the world, partly in tropical and arid or semiarid lands, which is largely a subsistence-type agriculture.

Countries in the first category produce about half of the world's total agricultural output but have only about 30 percent of the world's population. Those in the second produce the other half but have 70 percent of the world's population. And this disparity accounts for many of the international problems that today harass the relations between developed and underdeveloped countries.

This disparity is brought into sharp relief when the total agricultural production in the crop year 1955-56 of each country or region is converted to wheat equivalents on a value basis. We then find that per capita availabilities, after seed, feed, and waste have been deducted, are as follows: For the United States, 1,820 kilograms per capita; for the Far East, excluding Mainland China, 440 kilograms; and for Mainland China, 400.

Production Gains

Agricultural production in the Temperate Zone countries is up perhaps 30 percent since prewar days. Production in the other countries is up almost as much but population has increased much more than in the first group. Figured on a per capita basis, the gain is 12 percent in the first group whereas in the underdeveloped countries per capita production is somewhat below prewar.

In the United States, agricultural production and productivity have increased by leaps and bounds since 1940. With much the same area in crops as in 1940 and with about 30 percent fewer workers on farms, total farm output now stands some 35 percent above the 1940 level. Canada, with a 10-percent larger area under crops, has increased its farm output some 35 percent since 1941, with 30 percent fewer farm workers. Western Europe has shown great vigor. Its production is up 29 percent above prewar, an achievement in view of the low level in 1947-48. Technology—largely the mechanization of farm operations—has enabled the Soviet Union to expand its crop area from 360 million acres in 1950 to 480 million in 1956. And the other Temperate Zone areas, such as New Zealand and Australia, have made tremendous strides too.

When you look at the underdeveloped areas of the world the picture is quite different. These areas include all of Asia except Japan, which is highly industrialized; all of Africa except portions of the Union of South Africa; and all of Latin America except Argentina and Uruguay. Many of the Asian and African countries have gained their independence and sovereignty in recent years. Some of them are having difficulty getting organized politically.

This article has been adapted from a paper by Dr. Anderson entitled "Technological Developments in World Agricultural Production," which will be published in the *Journal of Farm Economics*, December 1958.

And nearly all of them are having balance of payments troubles.

Further, most of the underdeveloped countries are densely populated and less advanced agriculturally than the industrialized countries. The rural people are generally illiterate, and the available arable land per farm family is usually quite small—some 5 acres in India, 4 acres in Pakistan, 2½ acres in Korea, and 2 acres in Indonesia and Egypt.

Per capita annual income for most of the underdeveloped countries is very low, ranging from $50 to $150, with per capita farm income even lower. Where you have extreme poverty plus illiteracy, exhausted soils, and limited land resources, you find habit the outstanding characteristic of farm practices. Since crop failure means famine, farmers in these areas hesitate to make any change in production methods for fear it may result in lower yields and even in crop failure.

Asia—Including Mainland China

Asia accounts for 55 percent of the world's population but contributes only 34 percent of the world's agricultural production. Since the end of World War II, production has increased substantially and some technological advancement has taken place.

Use of fertilizer, while not extensive, has increased steadily in the past few years. Although Japan ranks with the highest consumers of fertilizer per arable acre anywhere in the world, most of the other Far East countries are only beginning to learn about its value. However, planners in Asia look upon fertilizer as one of the principal means to increase production. India's Second Five Year Plan targets an increase of 15.5 million tons in food grain production, and nearly 4 million tons of this is to be achieved by expanded use of fertilizer. Pakistan's 5-Year Plan also provides for increased production and greater use of fertilizer.

Much of the agricultural production in Far Eastern countries comes from irrigated land. Hence expansion of the area under irrigation and the improvement of old irrigation systems are vital in agricultural planning. Under its First Five Year Plan, India increased its irrigated area from 51 million acres to 68 million; and the second plan calls for adding 21 million acres more. Pakistan's development plans also call for huge expenditures on irrigation and land reclamation schemes. Similarly, Burma, Thailand, Ceylon, and the Indochina countries are all developing further irrigation, water control, and land reclamation projects.

While farm mechanization has made little progress in the Far Eastern countries, plant breeding work to develop higher-yielding varieties of crops is being carried on. But the problem is getting the results out to the producer. Part of the difficulty lies in maintaining the improved varieties because of the ignorance of the growers and the lack of storage facilities. Malaya and Ceylon have increased rubber production and lowered production costs by replanting the rubber estates with high-producing young stock; and gradual progress is being made in improving yields on coconut and tea estates in the Far East.

Possibly more significant than plant breeding, from the point of overall crop production, are the improved cultural techniques that are being introduced. In Pakistan, the yield of seed cotton in line-sown fields was a third higher than in fields where the seed was sown broadcast. In India, rice grown by the Japanese method has yielded from 50 to 100 percent more than rice grown by local methods. Also, aerial spraying and dusting in West and South Asia have helped combat locusts.

Communist China bases its agricultural plans on extensive collectivization, plus the massive use of cheap human labor in such jobs as constructing small dams, digging ponds, irrigation ditches, and wells, and reclaiming small scattered plots of land. These projects can show quick results and are done largely by local resources. (Under Communist policy, capital investment funds go mostly into industrial development.)

Opportunities for land reclamation in China are small. Consequently, most of the production increases will have to come about by raising yields per acre. Current efforts are directed at increasing yields by multiple cropping, close planting, use of improved seeds, measures to control insects, and other modern cultural practices. But the two most critical needs are fertilizer supplies and water control.

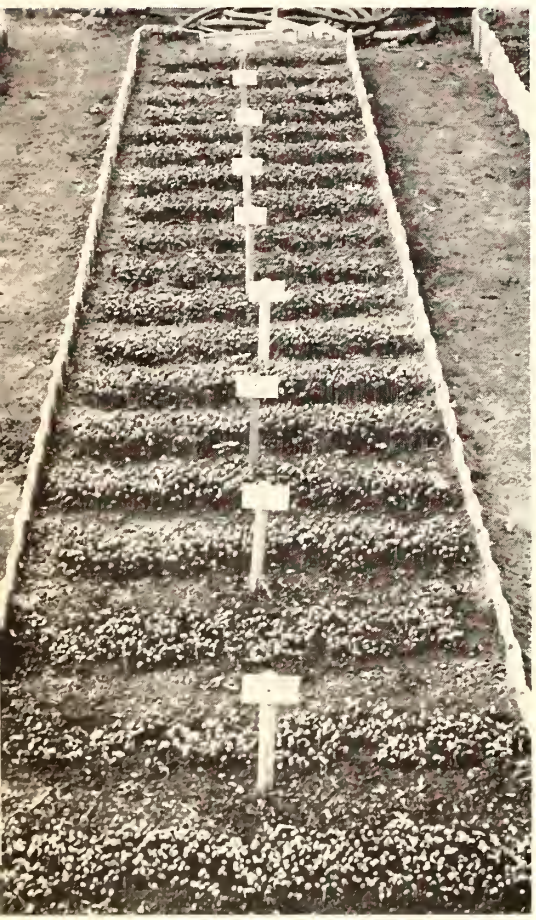
Photos courtesy World Bonk

New barrage on Thailand's Chao Phya River supplies t-ansport (above) and irrigation, as shown on opposite page.

Pakistani mixes poison with bait to combat locusts. Belcw, planting cuttings on dam across gully in Nigeria to prevent further erosion of land.

British Informotion Services

Guatemalan agricultural station vaccinates its chickens against disease. Above, farm mechanics school teaches Turkish boys how to service country's modern machinery.



Research is increasing in underdeveloped areas as this test plot of coffee seedlings in Guatemala testifies.

China's plans call for raising domestic fertilizer production from 750,000 tons of fertilizer carriers in 1957 to from 5 million to 7 million tons by 1962 and up to 15 million tons by 1967. These goals give some indication of the need but are believed to be far in excess of what can be achieved.

Mechanized farming is receiving less official mention than was the case a few years back. Human and animal labor will provide the bulk of China's farm power for an indefinite time. Emphasis now is on providing improved water wheels, mechanical power for operating irrigation pumps, animal-drawn equipment, and hand tools.

In West Asia, by far the greatest advance has been made in the expansion of cultivated areas through irrigation, drainage, and the use of tractors. Between 1950 and 1955, Iraq and Israel more than doubled their irrigated lands, Syria and Iran increased their irrigated acreage by 30 percent, and Turkey by 35 percent. Also Turkey increased its total arable land by 48 percent. Irrigation schemes planned or under construction in Syria, Iraq, and Iran may double the irrigated areas within the next 20 years.

Farm mechanization has made significant beginnings in West Asia. Israel leads, on a small-country scale, by virtue of its highly industrialized economy that is rooted in Western technology. Turkey leads in magnitude of change under a state-inspired and controlled scheme of mechanization. Syria's production of cotton and grain is the best illustration of mechanization through private enterprise. Little has as yet been achieved in West Asia to improve livestock or to breed and select more desirable varieties of plants.

Africa

Africa accounts for 8.5 percent of the world's population but contributes only 6.6 percent of the world's agricultural production. In the northern segment the pattern of agriculture is similar to that of West Asia. Ancient methods prevail, yet modern technology is becoming increasingly evident. The case of Egypt, with 24 million people, is unique. Its population has been increasing at a rapid rate, whereas its crop area is limited to 6 million acres. All water available from the Nile is used for irrigation, and the land is cropped intensively. Mechanization is used to supplement intensive human labor for certain farm operations; and soil fertility and high yields are maintained through generous applications of fertilizers. Improved seed varieties have been developed and used successfully, and some improvements made in livestock. Effective control of plant and animal pests and diseases is also maintained.

South of the tropical belt, the Union of South Africa has made considerable progress in agricultural technology. Mechanization and use of commercial fertilizers have increased significantly. Irrigation covers close to 6 percent of the total arable area, and the Union's advances in pest and disease control and livestock and plant improvement have been noteworthy.

In the tropical belt, technological

(Continued on page 16)

The New Trade Agreements Act

—and its implications for U.S. agriculture

By Weber H. Peterson
International Agreements Branch
Foreign Agricultural Service

THE TRADE AGREEMENTS Extension Act of 1958 was signed by President Eisenhower on August 20, making the eleventh—and also the longest—extension of this legislation since it was first enacted in 1934.

In general, the act is designed to promote the expansion of foreign markets for the products of U.S. farms and factories, for without legislation of this type U.S. influence and leadership in developing world trade would diminish. Under this act, the United States is able to participate in cooperative measures to expand international trade through tariff reductions within specified limits and removal of trade barriers on a mutually advantageous basis. The 4-year extension will be particularly effective in dealing with the tariff negotiations now in prospect with the developing European Common Market.

Main Provisions

Specifically, the main provisions of the 1958 Trade Agreements Extension Act are—

- Extend authority to enter into tariff negotiations through June 30, 1962.
- Grant authority to reduce the July 1, 1958, tariffs to the lowest rate under any one of three alternative methods: (a) by not more than 20 percent, with 10 percent as the maximum reduction permitted in any one year; (b) by 2 percentage points ad valorem, but not more than 1 percentage point per year; however, no item can be transferred from the dutiable list to the free list by this method; and (c) to 50 percent ad valorem whenever the rate is more than 50 percent ad valorem, but with the maximum reduction in any one year limited to one-third of total reduction.
- Tariff reductions cannot be made in more than four stages and, in no case, less than 1 year apart. No part of any decrease shall become initially effective after the first part shall have been in effect for a period or periods aggregating more than 3 years. And no part of a decrease in tariff rates is permitted to become initially effective (i.e., put into effect for the first time) after June 30, 1966.

Changes were also made in peril-point and escape-clause provisions of the trade agreements legislation. The new legislation increases the time for the carrying out of the peril-point investigations by the Tariff Commission from 120 days to 6 months and sets up some additional criteria to be used in the Commission's determination.

Escape-Clause Provisions

The new escape-clause provisions afford prompter consideration of the need for relief to any U.S. industry suffering serious injury from imports of any item on which a tariff concession has been granted by the United States. The Tariff Commission will have only 6 months instead of 9 months to complete escape-clause investigations. Moreover, the President will have the authority to impose a rate of duty up to 50 percent ad valorem on an item bound duty-free.

Further, Congress reserved for itself the right to review the Tariff Commission's escape-clause recommendations disapproved by the President, in whole or in part. Congress, by a two-third vote, can override the President's disapproval.

The new legislation also authorizes the President to raise duties as much as 50 percent over the rates which existed in July 1, 1934, as a result of a finding of injury in escape-clause investigations. Previously, the base date was January 1, 1945. Since rates on July 1, 1934, were generally higher than those on January 1, 1945, this new legislation will make it possible to grant greater tariff relief to any U.S. industry being seriously injured.

Exports Under Agreements

The Trade Agreements Extension Act of 1958 will serve effectively to implement the U.S. policy of expanded, nondiscriminatory, multilateral trade. This in turn supports an increasing foreign market for U.S. farm products, a market that is essential if useful outlets are to be found for the abundant production of our farmlands.

In 1957, U.S. total exports of farm products amounted to about 4.5 billion. About 76 percent of these exports went to those countries that are members of GATT (General Agreement on Tariffs and Trade). Almost another 4 percent of our farm commodities in 1957 were exported to those eight countries—such as Venezuela and Switzerland—with whom the United States has bilateral trade

agreements. Approximately $4 out of every $5 of U.S. agricultural exports last year went to those countries with whom the United States has agreements.

Also, approximately $3 out of every $5 of our total farm exports in 1957 moved under a tariff concession granted to the United States by one or more of the 43 countries with whom the U.S. has a trade agreement. This included more than 80 percent of our cotton exports, almost 90 percent of soybean exports, nearly 85 percent of fruit and fruit products, as well as many other agricultural products.

The trade agreements program has proved to be an important restraining influence on the tendency of countries to increase trade restrictions on agricultural products. As such, it has contributed to gaining increased access to foreign markets for our agricultural commodities. Provisions in the various trade agreements prohibit the use of quantitative import restrictions except in extenuating circumstances. Periodic consultations for the removal of such restrictions are also allowed. As a result, the program has tended to encourage a broader system of high-volume multilateral trading in farm products than there would be without trade agreements legislation and U.S. participation in trade agreements.

An Essential Tool

Secretary of Agriculture Benson, in summarizing his testimony in February said, "The extension of the Trade Agreements program is an essential tool that we must have in our economic relations with the rest of the Free World. There is a universal desire for all countries to improve their living standards. The Soviets have been quick to capitalize on weak spots in the economies of other countries. Almost daily, headlines report another trade deal which tends to orient countries away from us.

"People want to export the excess production of things they have and import the items they don't have. Extension of the U.S. Trade Agreements Act gives them the assurance that the United States continues to embrace the principle of mutually profitable international trade since it contributes to better living for them as well as for ourselves."

West Europe Buying Less Cotton But Bigger Share of U.S. Exports

Nine countries in Western Europe imported approximately a million bales less cotton during the 1957-58 marketing season than they did the previous year. While the U.S. share of these imports was some 2 percent lower than in 1956-57, this share constituted a larger portion of total U.S. cotton exports—57 percent as against 51 percent in 1956-57.

Because of the mounting importance of these countries as customers for U.S. cotton, Robert C. Sherman of the Foreign Agricultural Service traveled extensively in Europe this past summer to get a first-hand glimpse of the market for U.S. cotton abroad. His observations, country by country, are as follows:

West Germany's imports during 1957-58 totaled about 1,450,000 bales compared with last year's high, 1,596,000 bales. Buying came almost to a standstill in January; and prior to this lull there was considerable trading in cotton with East Africa, the USSR, Central America, Syria, Iran, and Sudan, partly because of the relatively high prices for the better grades of U.S. cotton. This brought the U.S. share of West German imports down to 50 percent, whereas in the third quarter of 1956-57 it was 72 percent.

The **United Kingdom's** 1957-58 cotton imports of around 1,550,000 bales were well below its 1956-57 imports. The U.S. share remained at roughly 60 percent. Imports from British West Africa, Egypt, and Mexico were up from the previous year, while arrivals from Brazil, Peru, Turkey, India, and Pakistan were down. Imports from the USSR were only about two-thirds of the previous year.

France has sharply restricted cotton imports to save foreign exchange, so that cotton buying during the first half of 1957-58 was the lowest in many years. Supplies from French Africa, which are available for francs, declined only slightly, but most of the U.S. cotton reaching France was through Public Law 480 and ICA (International Cooperation Administration) programs.

Belgium's cotton imports last year ran around 400,000 bales as against 515,000 in 1956-57. However, U.S. cotton appears to have regained the leading position in the Belgian market that it held some years back, namely, about 50 percent of total imports.

The **Netherlands** took around 300,000 bales of cotton in 1957-58 compared to 380,000 bales the year before. But during the year the U.S. share dropped sharply from 60 percent for the first 9 months of 1956-57 to 25 percent for a comparable period in 1957-58. Cotton from Mexico, Belgian Congo, Nicaragua, and Peru has been claiming more of the Dutch market.

Austria's cotton imports rose last year to 120,000 bales, an 18-percent increase over 1956-57. The United States is supplying about 78 percent, compared with 70 percent in 1956-57 and 50 percent during 1950-54. Austria now has an agreement with the USSR to buy 5,000 metric tons of cotton during calendar year 1958, but it is doubtful that this much cotton will be imported from that country.

Switzerland's 1957-58 imports were down considerably from the previous year and so was the U.S. share. Swiss industry traditionally produces high-quality yarns and fabrics, consequently millowners did not switch to the lower U.S. grades when U.S. prices for the better grades remained high.

Italy's imports last year were somewhere between 800,000 and 850,000 bales compared with 960,000 bales in 1956-57. The U.S. share for the first 8 months of the marketing season remained about the same, at two-thirds of total imports. Italy liberalized dollar cotton in June 1957, but has also been getting U.S. cotton under P.L 480.

Spain's cotton imports in 1957-58, according to figures available, amounted to over 242,000 bales; of this quantity nearly 178,000 bales came from the United States. Most of this was bought for local currency, and it is doubtful that Spain, in the near future, will be able to purchase any appreciable quantities of cotton for dollars.

Science safeguards quality and boosts productivity in Dutch butter industry. But Holland, like other exporters, now finds its price supports have pushed output past what markets can take.

Photos courtesy Netherlands Embassy

Butter Marketing Trouble In Europe

By P. E. O'Donnell
Dairy and Poultry Division
Foreign Agricultural Service

Dutch buttermaker taps cask of export butter to get sample for quality test.

Dutch butter sample passes taste test. Standards for export butter are high.

EUROPE THIS YEAR is struggling with a vexing butter problem: foreign markets and prices are both shrinking. Practically every Western European country, from Finland down through Belgium and over to Austria and Italy, is involved to some degree. Large butter-exporting countries outside Europe are also seriously affected.

Center of the anxiety is the United Kingdom, now the world's only large export market for butter. There, at the end of July this year, the finest New Zealand butter was bringing only 29 cents per pound wholesale. So badly had the situation deteriorated that even this market has been partly closed by government action, despite the traditional British open-market policy.

What has brought about the slump in butter prices? The main underlying factor is a widespread system of high domestic price supports for butter, leading to increased butter production in both the traditional exporting and importing countries of Europe. As a result, butter-importing countries have thrown up barriers against butter entry; and in protected butter markets butter consumption has fallen off in favor of margarine. Attempts by some countries to raise butter consumption and limit further rise in output are recent and only partly successful.

To classify each country's interest in butter production, consumption, and trade is not easy; but certain major features stand out. The traditional large butter *importers* are the United Kingdom, which in 1957 imported 820 million pounds, and West Germany, which imported 102 million. Regular smaller importers are Belgium, Switzerland, and Italy. France has both imported and exported seasonally.

Regular large *exporters* in Europe are Denmark, the Netherlands, and Sweden. Norway and Ireland are regular small exporters. Finland exports in some years and imports in others. Located outside the European area but having vital trading interests in the United Kingdom are New Zealand and Australia, the world's largest and third largest butter exporters. Pressure from these two countries made the United Kingdom set limits on its butter imports from certain sources during the current year. Also outside the area is Argentina, a large and longtime, though occasional, supplier of butter to the United Kingdom. Of late, too, Poland and Hungary have entered that market.

Every country mentioned except Denmark has some form of price support or compensatory payment for milk production. The New Zealand system has been industry-supported and, in principle, still is, with the aid of re-

Courtesy Danish Embassy

Above, Danish export butter boards ship; below, big Swedish cooperative's assembly line packs and stores butter.

Courtesy American-Swedish News Exchange

cent loans from the New Zealand Reserve Bank. The U.K. system limits price supports to milk for fluid consumption. Other systems such as those of Sweden and Ireland, which have both recently tried to hold down milk output, are partly supported by levies on the industry itself.

To limit the amount of government aid supplied by taxes, several countries have supported their domestic butter prices well above competitive trade levels. This situation has led to deep inroads by lower priced margarine, which has improved considerably in quality during the past 10 years. In some important butter-exporting countries like the Netherlands and Denmark, per capita margarine consumption until lately has been going up considerably at the expense of butter; and in all European countries but France and Switzerland, whose policy discourages margarine sales, that product has shown impressive sales growth.

Recently various means have been used to encourage larger butter consumption. Finland has tried domestic subsidies, and Denmark and the Netherlands have tried two-price systems, administered by industry. In the latter countries, stored butter has been offered at a price well below that of fresh butter. In Sweden, which recently dropped its domestic butter price about 17 cents per pound, milk producers are absorbing much of the income loss through a lower price for milk. In Ireland, milk producers have had to shoulder more of the cost of exporting subsidized butter than they did before.

A two-price system, with butter exports priced below sales on the domestic market, is widely used in exporting countries. Where the income from export sales cannot meet the domestic support price for milk plus the cost of buttermaking, the public treasury often makes up the difference.

This system works as long as markets for subsidized exports of butter are available. But it is self-defeating if generally adopted and if the support price levels encourage greater production than available markets, taken together, can absorb. In that event, regular importers curtail imports to protect their own price levels. This has gone on to a considerable degree in West Germany and Belgium and to a less degree in Switzerland, Italy, and France. The result is increased supplies in remaining free markets—and there is only one such market, the United Kingdom. Distress prices and injured trading interests compel action to limit market entry. And we are back to the beginning of our story.

Some answers to the problem have been offered by expert working parties convened by the Organization for European Economic Cooperation (OEEC) through its Ministerial Committee for Agriculture and Food. The Food and Agriculture Organization's Committee on Commodity Problems has also made a report. Suggested actions include domestic measures to increase consumption of milk and dairy products (including butter) and to adapt production more closely to demand. Also recommended was restraint in actions that tend to lower the level of prices on foreign markets. Presumably this would mean limiting exports and export subsidies.

Clearly, in the near future only consumption increases can be achieved (plus some export reduction). This will help, for butter stocks in OEEC countries in May this year were about 40 to 45 percent higher than a year ago, and total production in 1958 is expected to be higher than in 1957. But there is need for longer run measures on the supply side, enough to check further increases in milk output or even cut it back. Achieving these will be difficult. The price support measures that have raised output and thus led to the current situation are woven into national policies affecting incomes, cost of living, and fiscal policy. Yet unless something can be done to control output, the butter problem will remain.

This problem and its possible solutions vary from country to country. Belgium and France will probably not find it difficult to avoid adding to burdensome export surpluses. But can these countries, both former importers, adopt measures that will bring their butter imports up to the higher levels prevailing several years ago? Will the Netherlands be able to reduce its support prices for milk and relieve the public treasury of this heavy cost? Can milk production be reduced in such a country as Finland, where many small farmers find it the best way to utilize their family labor and other farm resources? Can Italy and Switzerland resume former butter import levels?

This series of questions is not intended to point the finger of inquiry at specific countries, but rather to illustrate some of the variations that exist in the butter situation, particularly on the supply side. Political leaders have to be practical men, and where interests differ both in kind and in degree, differing responses to the overall problem must be expected. Thus it is likely that, at best, the European butter problem will be only partly solved during 1958, and that the supply side of the problem will be the most difficult.

Belgrade's shoppers are impressed by the many kinds of goods they can buy at their first supermarket. They also like the way self-service speeds shopping.

Photos by Harold Koeller

This little grocery in Belgrade sells mostly fruits and vegetables; other foods must be bought in other stores.

Belgrade's New Supermarket Is Meeting With Success

Yugoslavia's first supermarket, located in the heart of Belgrade, has been doing a fine business ever since its opening last April. In the first few weeks, sightseers who came to gaze and remained to buy caused sales to mount. By now the novelty has worn off, yet trade is still brisk. The twin ideas of self-service and a variety of items under one roof seem to have caught the Yugoslav imagination.

Many Belgrade shoppers call the new store the "American market." And in fact it is the first-born of "Supermarket USA," a display in the U.S. pavilion at the 1957 International Fair in Zagreb. The Vrachar Company bought the display and installed it in a modern building adapted from an old market.

So pleased is Belgrade with its first supermarket that Vrachar has agreed with the City Council to build nine more, two of them by the end of the year. These stores will serve 50,000 customers, mostly in the city's outskirts where there are not enough food shops to go around. Their total area will increase shopping space by the equivalent of 168 food stores of the standard type. Part of their profits will go toward building still more supermarkets.

A Belgrade housewife usually has two choices in shopping—the public market, or the specialized shops in her neighborhood. The population of Belgrade has doubled since the war, but the number of retail shops has increased very little. So the housewife often has to wait in line to do her shopping—perhaps several times, at separate stores for bread, meat, dairy products, fruit and vegetables, and standard groceries.

In Belgrade's new supermarket, however, as in most American ones, shoppers can buy all these things plus liquor and wines, household supplies, glasses, and chinaware.

The basic motive of the Yugoslav supermarket movement is to raise the standard of living by making more and better food available to the consumer at lower cost and in hygienic packages. Retail food prices are expected to go down gradually once the supermarkets are well established; packaging is more expensive, but turnover is greater. And these lower prices should stimulate increased consumption of high-quality agricultural products.

Buying dairy products in Belgrade—the new way and the old. Above, dairy department in supermarket; below, a small store for dairy products alone.

Courtesy Pan American Union

Buying vegetables at market in Talara, in Peru's coastal region. Sugar and cotton are grown extensively in this area; now government advocates switch to more foodstuffs.

Slump in Peru May Hit Farm Trade With United States

By James F. Lankford
Latin American Analysis Section
Foreign Agricultural Service

PERU, South America's fourth largest country, for many years has traded mainly with the United States.

Like most of the other Latin American countries, it has been a growing market for our goods, and, over the long run, trade possibilities are still promising. But for the next few months, and perhaps longer, the picture is not too bright. Peru's currency, in recent years one of the most stable in South America, has depreciated, and the country's gold and dollar reserves are at the lowest point since 1950.

These disturbing developments in Peru's economy are comparatively recent. Despite growing economic problems in neighboring countries, the outlook for the Peruvian economy at the beginning of 1957 was extremely optimistic. With its exports well balanced between mineral and agricultural products, Peru was protected from adverse developments in foreign markets and was enjoying a fair degree of prosperity. However, well before the end of last year, progress began to slow down and imports exceeded exports, thereby draining the country's reserves.

Reasons for Slump

A drought, which began in 1955 and did not end until early 1957, was partly responsible for the slackening of the promising economic prospects. Agricultural production in the highlands dropped appreciably and even the coastal area was affected. Two of Peru's major agricultural export crops, sugar and cotton, in 1957 were below the previous year's output; and while the potato and wheat crops were moderately larger than in 1956, they were still below average for recent years.

Even more upsetting than the drought was the decline in prices of the country's major exports. Prices of cotton, sugar, copper, lead, and zinc dropped more or less simultaneously. The only compensating factor was the high price of sugar early in 1957 when exports were heavy; to an extent this offset the decline in the export earnings of lead, zinc, and copper.

The instability in the money supply and in price levels served to further aggravate economic developments last year. Excessive monetary expansion and a steadily rising price level have been chronic problems in Peru for many years, but neither has been very troublesome up to now because of expanding production and exports selling at good prices.

All of these — drought, declining prices, monetary instability—plus increased domestic consumption substantially reduced the rapid upward trend in the value of Peru's export trade. The increase in 1957 was only 6 percent compared with 15 percent the previous year. Yet imports continued to mount, largely because of drought and rising income levels, but also because imports were needed for various investment projects. The result was an unfavorable balance of trade of $118.1 million for the year.

Government Measures

Early in 1958, the Peruvian Government took definite measures to halt this deterioration in trade. In the foreign exchange market, Peru's Central Re-

Above, cotton field; right, sugarcane at rail siding. Production of both declined last year, prices also dropped.

serve Bank ceased to support the certificate exchange rate, and this caused the currency to depreciate from 19 soles to the dollar on January 21 to 22.8 soles 5 months later. Then on May 27, the government passed a law raising import duties 50 or 200 percent except for basic foodstuffs, which were exempt. Collection of duties, however, was delayed until the matter could be presented to GATT (General Agreement on Tariffs and Trade).

While U. S. farm products are not likely to be seriously affected by these new duties, the tightening of the belt, which appears necessary for Peru to bring its imports in line with its exports, may reduce our agricultural exports to this country. Our trade with Peru has been substantial in recent years, both in agriculture and other goods—in fact, the United States supplies more than half of Peru's total imports.

In 1957, our farm exports to Peru amounted to $19.5 million and consisted mostly of wheat and wheat flour, barley, corn, tallow, lard, cottonseed oil, and nonfat dry milk. Though a record year for U.S. farm exports to Peru, the trade was not all for dollars, for certain commodities were delivered under the Public Law 480 program.

U. S. imports from Peru are substantial too. In 1957, they amounted to $142 million, of which $27.5 million was in agricultural commodities—mainly coffee, sugar, extra long staple cotton, wool, alpaca, llama and vicuña hair, and hides and skins.

Essential as it is for Peru to regain a favorable trade balance, any heavy reduction in food imports may present serious problems. Peru is having a hard time providing enough food to feed its growing population. Even before the drought, Peruvians were consuming only about 2,280 calories a day, less than the consumption levels of Europe and below those of many of the other Latin American countries. And while Peru produces much of its food, certain food imports are needed. For example, 65 percent of the wheat and wheat flour requirements are imported, 10 to 20 percent of the beef, 65 percent of the lard, and 10 percent of the milk, plus other grain, meat, and dairy products.

Agricultural Expansion

Unfortunately, Peru's chances of expanding its own agricultural production to meet consumption levels do not appear to be very optimistic at the present time. Peru has never gone in for self-sufficiency in agricultural production as strongly as some of the other Latin American countries; and a recently completed 6-year government program designed to stimulate food production was largely unsuccessful. Particularly disturbing to Peruvians in recent years has been the decline in grain crops, especially wheat and corn. Some recovery is anticipated but the need for imports will continue for a number of years.

Peru's agriculture is handicapped by scarcity of arable land. At the present time, the country's arable land is estimated at only 4.5 million acres, or less than one-half acre per person. Vast areas of potentially cultivable land lie east of the Andes; their development, however, will be in tropical products, mostly for export, and thus will offer no solution to local food problems.

Peruvian agriculture is also confronted with lack of water on the coast. This area consists of a narrow ribbon of desert 1,400 miles long. Here one-third of Peru's population lives and here Peru's principal export crops, sugar and cotton, are grown under irrigation. It is so dry that only a few of the many rivers that flow from the mountains to the Pacific have water in their beds the year round.

Inadequate transportation and a backward agricultural technology are further obstacles. Most of the farming in the Sierra consists of small uneconomic units. These were badly hit by the drought, but even in good years farmers in this mountainous area barely produce enough food to feed their families. And there is little incentive to produce more since transportation over the Andes is difficult and limited.

Encouraging Signs

Despite these handicaps, Peruvian

agriculture is showing some encouraging signs. The production of export crops has expanded sharply in recent years. Several irrigation projects are now under construction, so that within the next 5 years a half million acres should be added to cultivation in the coastal area. Farm credit provided by the Agricultural Development Bank is providing vital assistance to agriculture, and much work is being done in agricultural research.

In an attempt to promote food production, Peru's Government recently decreed that from 15 percent to 23 percent of the coastal croplands normally used for growing sugar and cotton must be planted in foodstuffs. This step should save much needed foreign exchange, but may cut back on exports in cotton and sugar.

Over the long run, Peru's agricultural hopes lie in further development of tropical products. In the past decade, Peru's coffee exports have increased from $329,000 in value to $13 million last year. The country is becoming self-sufficient in cacao. Tea imports have been reduced and some tea is being exported. Moreover, possibilities for expansion have hardly been scratched. Given adequate transportation over the Andes to the sea and Peru could enter world markets with a range of tropical foodstuffs, most of which could be exchanged for U. S. farm products.

Thus, though the current trade situation is unfavorable for the sale of U.S. farm exports to Peru, the future looks promising. Peru has abundant natural resources. The government's policy of permitting a free economy and encouraging investors offers strong incentive for private enterprise and the inflow of foreign capital.

Within a few years the country should reap the benefits of these large investments. Sugar and cotton exports should increase with the addition of more irrigated land. By 1960-61, copper production may have multiplied three or four times. Iron ore production, which only started in 1953 and has already reached a total of over 1.5 million tons, should continue to mount. And these increases in Peru's diversified exports are expected to more than offset the 1957 decline in export prices.

Agricultural Technology

(Continued from page 8)

development has been limited mainly to the agriculture of European-owned farms and plantations, and to such export crops as peanuts, cocoa, palm oil, coffee, and rubber grown by Africans on small farms. All the rest is African subsistence agriculture, with primitive techniques being practiced.

Latin America

Latin America accounts for only 6.8 percent of the world's population but 8.8 percent of the world's agricultural production. Its outstanding technological developments in recent years have been the expansion of irrigation and mechanization. Several countries have large irrigation schemes under way; Mexico has a long list of completed projects. Chile, too, has a large percentage of its arable land under irrigation; and in Peru, the coastal farmers are entirely dependent on irrigation for their livelihood.

Mechanized farming has made great progress since the war. In 1939, only 30 percent of the tractors were outside Argentina; in 1952, the percentage amounted to 75. Argentina, Mexico, and Brazil have all increased substantially the use of tractors. In Uruguay, 80 percent of the cultivated land is farmed mechanically, in contrast with the 20 percent for the region as a whole.

Fertilizer consumption in the Latin American countries is still low. Yields apparently have increased, for the overall production of crops has risen faster than the area cultivated. Improved corn and wheat varieties have been developed in Mexico, and similar programs are under way in Colombia and Central America. Significant too have been the advances in animal breeding and feeding in Argentina and Uruguay. Both Chile and Mexico also have programs to improve their livestock industry.

Will There Be Enough?

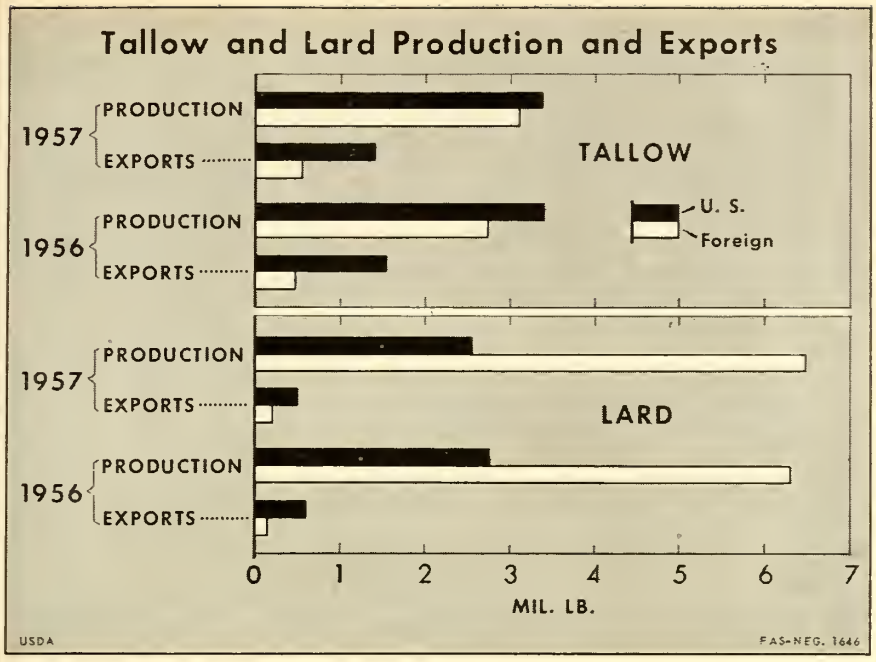
While the growth of agricultural production since World War II has been considerable throughout the world, this growth, as related to food and fiber requirement, has been uneven. It has been highly favorable in North America but unfavorable in most of Asia, which is losing ground in its ability to feed itself and is becoming a major world food-deficit area.

Take the case of India. Several successive years of favorable weather have resulted in large food supplies and these, coupled with better medical care and sanitation, have had the effect of cutting down the death rate to such proportions as to raise the net annual increase in population from 1¼ percent to 2 percent. This increase means that India, with a present population of 400 million, will now have 8 million additional people to feed annually instead of 5 million more. Aso, improvements in transportation are now making it possible to move food about quickly to avert famine in drought and other catastrophe areas. Although these improvements in medical care and transportation are undoubtedly among the great blessings of mankind, they nevertheless bring with them certain effects upon population growth that merit serious study if the food needs created thereby are to be met.

Similar problems exist all over Asia, and it is a situation that is likely to become considerably worse over the next 25 years while the Far East peoples are gaining literacy, developing extension services, and building the fertilizer plants necessary to increase yields significantly.

How will this affect the rest of the world? Will there be enough food and fiber to feed and clothe everybody, if parts of the globe continue to build up deficits?

Notwithstanding the difficulties that will beset these areas—the Far East, in particular—it seems highly likely, in view of recent and prospective developments in agricultural and related technologies, that mankind will successfully devise means of feeding, clothing, and housing itself as far into the future as can now be seen. This may involve some population adjustments. It may cause deviation from conventional methods of food production. And over the next generation it may mean the movement of increasingly large quantities of food and fiber from surplus to deficit areas, under financial arrangements that in part may be net additions to the resources of needy nations throughout the world.



Is the U.S. Losing Its Foreign Markets For Livestock Products?

THE UNITED STATES, currently on the down side of its normal cattle cycle, is feeling the effects of an industry-wide upheaval in both its domestic and foreign markets. Lowered production has pushed prices up, imports have expanded greatly, and exports have dropped considerably.

The United States bought 49 percent more meats of all kinds from abroad in 1957 than in 1956, mainly because high U.S. domestic prices encouraged foreign beef and cattle exporters to sell in the U.S. market. Beef purchases were up more than 100 percent and cattle imports were over three and a half times the 1956 total. And this trend has continued on into 1958.

While U.S. purchases were shooting upward, U.S. sales abroad have been falling. Beef exports dropped off 42 million pounds in the first quarter of 1958. And pork was down to 2 million pounds compared with 14 million in the first quarter of 1957. A sharp drop in sales to the Netherlands, a major market, accounted for a large part of the reduction. Variety meats were also way down because of smaller demand for U.S. products from the Netherlands and West Germany.

Furthermore, foreign buyers have been discouraged by high breeding cattle prices, and purchases have been cut sharply so far this year. In 1957, Mexico bought $5 million of U.S. breeding cattle under an Export-Import Bank loan, thereby pushing total U.S. exports up. Another $5-million loan has not been used because of the high prices and because the drought in north Mexico has created a feeding problem.

European Markets

The U.S. share of the European market was lowered considerably in 1957 and has continued low so far this year. West Germany, the major U.S. customer, and Sweden changed their livestock situations drastically.

West Germany increased its hog numbers to the point where prices were driven down to a record low. As a result, U.S. exports of meat and meat products to West Germany fell off 24 percent. The United States is still the principal supplier of inedible tallow, variety meats, and fatback to this market. But with West Germany's abundant supply of pork, lard, and other byproducts, imports are expected to continue at a relatively low level this year.

Sweden has switched from a net importer to a net exporter of pork. Production in 1957 was 7 percent above 1956 and so far this year it is even higher. Prices have been forced down by increased output, and import taxes have been raised to protect the domestic market.

Lard

Of major concern to the U.S. industry is the disposition of its byproducts —mainly lard and tallow and greases. There is the long-term problem of more widespread use of vegetable oils and synthetic detergents both at home and abroad. But of more immediate concern is foreign competition in traditional U.S. markets and expanded foreign production. The U.S. share of world lard exports fell 8 percent during 1957, while other exporting countries increased their share nearly 28 percent. Most of the increases were made by Argentina, Belgium-Luxembourg, Denmark, France, the Netherlands, and Sweden. Denmark alone upped its 1957 exports by 33 percent over 1956. The most important buyers were the United Kingdom and West Germany. And Sweden, traditionally a lard importer, became a net exporter in 1957, shipping 27 million pounds abroad. Half of Sweden's foreign sales were to West Germany.

In 1957 and the first quarter of 1958, the United States lost part of its market in the United Kingdom to European lard exporters, and a considerable share of its market in West Germany. Because of the record hog output in 1957, West Germany's lard imports in the first quarter of 1958 declined 38 percent. At the same time, the U.S. sales to that market dropped from 7.1 million pounds to 800,000 pounds because of competition. The Netherlands was the strongest U.S. competitor, while Poland, a newcomer to the West German lard market, moved into third place as a supplier.

Mexico also bought less U.S. lard last year. Increased Mexican hog slaughter was probably the main reason for the losses in this market. Canada's lard purchases from the United States were down 66 percent in the first quarter.

These developments were largely responsible for bringing U.S. lard exports down 31 million pounds below the total for the first quarter of 1957.

The outlook is not particularly favorable. European importers and exporters have combined their efforts for more organized marketing — a move which could further hamper U.S. lard trade. The French Lard Export Association has begun a marketing promotional program to increase lard consumption in West Germany, and West German importers have signed agreements with several exporting countries. These countries—the Netherlands, Denmark, Poland, Sweden—will provide money to implement the program.

Tallow and Greases

The U.S. tallow and grease situation is trending in the same direction as that of lard. Although world production was up 5 percent last year, U.S. output dropped 2 percent, and the U.S. share of the world market dropped from 76 percent to 72 percent.

This drop in exports was attributed to higher U.S. prices and lower production, increased production and exports of foreign countries, and a wider use of synthetic detergents by tallow importing countries. U.S. tallow prices rose from 6.8 cents a pound in January 1957 to 8 cents in December. Although unimportant singly as exporters, Canada, Mexico, France, Australia, New Zealand, and Argentina all increased their production and exports of tallow and greases. Mexico also cut imports to bolster its copra industry.

Competing Products

In recent years, U.S. vegetable oils have become lard's strongest competitor both at home in the manufacture of margarine and shortening and in the export market.

Tallow and greases have been meeting increasingly strong competition at home and abroad from synthetics. More people are using laundry and dishwashing machines than ever before. This has raised the demand for detergents and cut the consumption of soap. Fortunately, the United States has been able to use almost all the tallow and greases displaced by detergents in animal feeds, and in manufacture of nylon, synthetic rubber, plastics, and lubricants. Production increases have been absorbed by export markets. The United States is dependent on exports for disposal of about two-fifths of its tallow and greases.

The future is uncertain. Greater efforts are needed to find new export outlets among underdeveloped countries where synthetics have little chance to compete, and they are needed to promote new uses in established markets.

Japanese Housewives' Contest Highlights Use of Soybean Oil

How soybean oil can improve the Japanese equivalents of hot dogs and hamburgers, lunchbox sandwiches, and dinner casseroles was the theme of a cooking contest held in Osaka early this summer as part of a soybean market development program.

Over 200 contestants submitted original recipes for picnic dishes, summer lunches for school children, or one-dish summer dinners for the whole family. From these, 9 contestants were chosen as winners and 4 for honorable mention. In the picture above, the 13 successful contestants are preparing their dishes on portable cook stoves as two nutrition professors comment and explain over microphones.

The contest was the feature of a nutrition program presented in an Osaka department store before an audience of over 900. Sponsors and supporters included the Japan Oil and Fat Manufacturers Association, Japanese American Soybean Institute, and Osaka Food-Life Improvement Society.

Japan is the world's top importer of soybeans, and the United States is its top source, with Communist China second and Brazil third. Japan crushes most U.S. beans for oil, using Chinese beans for food.

Midway through Japan's fiscal year 1958 (April-March), the Chinese had delivered only 28,000 metric tons out of Japan's 265,000-ton purchases. Unless the China trade resumes, Japan may need U.S. beans to fill this gap. Still to be solved are problems of dollar shortages and shipping costs.

U.S. Agricultural Exports Third Highest on Record In Fiscal Year 1958

THE NATION'S agricultural exports, which had hit an all-time high in fiscal year 1957, declined in fiscal 1958, but still were at the third highest level on record. The $4,002 million export value for the year that ended June 30, 1958, is 15 percent below the 1957 record of $4,727 million, but only 1 percent below the previous record of $4,053 million in 1952.

Many factors went into maintaining this high export level. Some of them were domestic: abundant supplies of most major commodities available for export; government export programs, including sales for foreign currencies; activities to promote export markets. Some of them were foreign: the continuance of economic activity at a relatively high level; the improving gold and dollar situation; increased population; reduced output of some crops.

The reduction in exports, which occurred despite these favorable factors, took place largely in three commodities—cotton, wheat, and rice. In all three, the declines were from exceptionally high levels in 1957.

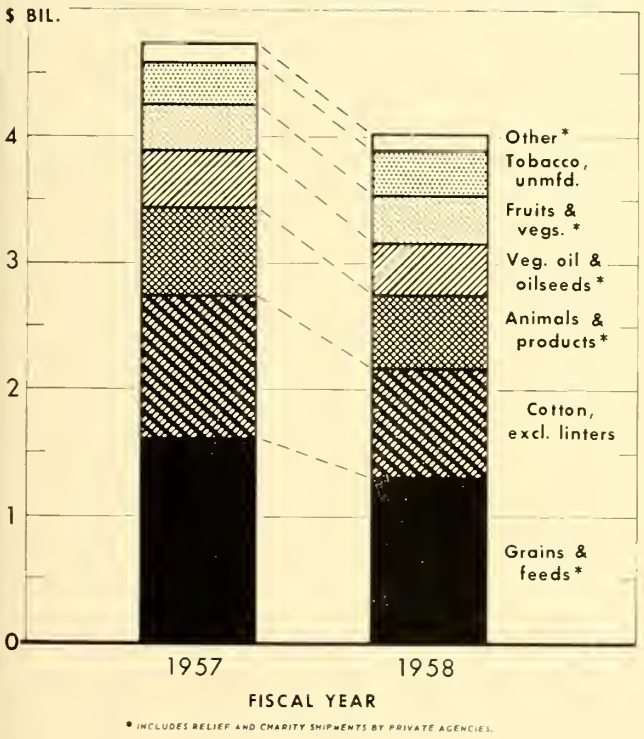
Other export declines included animal fats and oils, meats, dairy products, vegetable oils, and rye.

Increases in some exports partly offset these decreases. Exports of both feed grains and soybeans set new records. Shipments of fresh apples tripled; those of flaxseed more than tripled. Tobacco exports were slightly ahead in value but short in quantity.

Exports in 1958 had one particularly noteworthy feature. Shipments other than those under government programs stayed as high as in 1957—$2.8 billion—and comprised 70 percent of total agricultural exports in 1958 compared with 60 percent in 1957.

Despite the decline in agricultural exports, they still exceeded agricultural imports, and for the second year. In other recent years, they had run behind imports, and in

VALUE OF U. S. AGRICULTURAL EXPORTS BY COMMODITY GROUPS



U.S. EXPORTS OF SELECTED AGRICULTURAL COMMODITIES

Commodity	Unit	Fiscal year 1957	Fiscal year 1958	Change in 1958 from 1957
		Mil.	*Mil.*	*Percent*
Cotton, excluding linters	Running bale	7.3	5.7	—22
Wheat and flour [1]	Bushel	548	401	—27
Rice, milled basis [1]	Cwt	26	12	—54
Feed grains [1] [2]	Ton	7	9	+28
Tobacco, unmanufactured	Pound	501	473	—6
Cottonseed and soybean oil [1]	do	1,394	922	—34
Soybeans	Bushel	77	88	+14
Flaxseed	do	2.5	9	+260
Tallow	Pound	1,361	1,096	—19
Lard	do	561	399	—29
Beef and pork	do	203	91	—55
Nonfat dry milk [1]	do	605	698	—15
Evaporated milk [1]	do	168	141	—16
Cheese [1]	do	174	188	+8
Fresh apples	do	84	249	+196
Fresh oranges	do	753	503	—33
Dried prunes	do	122	122	0
Raisins	do	112	61	—46
Canned fruits [3]	do	285	308	+8
Orange juice	Gallon	14.5	16.8	+16
Dry edible beans [1]	Pound	348	220	—37
Canned vegetables [4]	do	137	152	+11

[1] Includes relief and charity shipments by private agencies, mostly CCC donations under section 416.
[2] Includes barley, corn, grain sorghums, oats, and products.
[3] Includes only fruit cocktail, peaches, pears, and pineapples.
[4] Includes only asparagus, tomato juice, tomato paste and puree, and tomato sauce.

some years they outpaced only imports of supplementary products.

The foreign market remained the chief outlet for Commodity Credit Corporation disposals. CCC export disposal commitments of $1.5 billion accounted for 69 percent of total disposals in 1958, compared with 77 percent in 1957 and 79 percent in 1956.

Agricultural exports in fiscal 1958 represented the output of 1 acre out of every 6½ harvested in the United States. In the 1957 season, U.S. farmers harvested a total of 326 million acres; in 1958 U.S. exporters shipped products equivalent to the harvest of 50 million.

Exports of *cotton,* excluding linters, fell 22 percent below 1957, when shipments were the largest in almost a quarter century. Yet their volume still compares favorably with the 1935-39 average and exceeds the 1950-54 one. The decline from 1957 mainly reflects three factors: larger stocks of cotton and cotton products in major importing countries; a rise of about 1 million bales in foreign cotton production; and a consumption level about as high as in 1957. However, the position of U.S. cotton abroad was bolstered by CCC sales at competitive world prices.

Exports of *wheat and wheat flour* were 27 percent below the alltime high of 1957. Most of the decline occurred in shipments to Europe, where a record crop of high-quality wheat was harvested in 1957. A notable development in last year's European wheat situation was the return of France to the ranks of the world's major wheat exporters. Less U.S. wheat went also to the Western Hemisphere and Africa, but shipments to Asia gained somewhat.

Rice exports for 1958 dropped to less than half of the record high in 1957, but exceeded the shipments of 1955 and 1956. The record exports of 1957 resulted principally from large Title I, Public Law 480 programs concluded late in 1956 and early in 1957. These record shipments also substantially reduced stocks carried into the 1958 year.

Feed grains set a new export record. Combined exports of barley, oats, sorghum grains, and corn (including products) are estimated at 28 percent above 1957 and 6 percent above the previous high of 1956. Principal factors were the superior quality of the European wheat crop, which limited the availability of feed wheat there; increased U.S. sales for foreign currency, particularly to Mexico and Poland; and lower exportable supplies elsewhere, as in Argentina and North Africa. Argentina's current corn crop is larger, but it started to move into export only in the last quarter of the 1958 season.

Although exports of *soybeans* rose to a new high, exports of *cottonseed oil* and *soybean oil* together fell by nearly a third. Exports of soybeans have been trending upward for a number of years, owing to record U.S. supplies and to expanding needs abroad in a period when foreign supplies have not greatly increased. Exports of vegetable oils were bolstered by Title I programs under Public Law 480 in both years; but foreign demand weakened in 1958 as other surplus producing areas increased output. A notable development in 1958 was larger Title I shipments of vegetable oils to Spain.

Important developments in exports of fruits and vegetables included much larger shipments of fresh apples and much smaller shipments of fresh oranges. The increase in apple exports followed the greatly reduced European crop of 1957. The decrease in orange exports resulted from unfavorable weather in the United States, where Florida suffered a severe freeze and California had a dry summer. Florida supplies were so hard hit that Florida processors of orange juice imported Cuban oranges. Exports of prunes were aided by a large sale to the United Kingdom under Title I of Public Law 480; those of raisins declined after the short crop of 1957.

Exports of unmanufactured tobacco held up well at only 6 percent below those of 1957—mainly because the quality of the crop was well suited to export requirements and because purchases by domestic manufacturers were below normal. Also helpful were the relatively high level of foreign economic activity, the larger cigarette output abroad, and the improved gold and dollar reserves of important tobacco-importing countries in Western Europe. Exports were maintained despite the sharp drop in U.S. production and the price differential between U.S. tobacco and competitive growths. This differential is becoming more important in the export situation as foreign production increases.

Exports of *animals* and *animal products* declined from $705 million to $585 million. (About $100 million each year represented donations to private welfare agencies, mainly of nonfat dry milk and cheese.) There were overall declines in exports of lard, tallow, dairy products, meats, and eggs, but exports of hides and skins were maintained. The main factor in the reduced exports was keener foreign competition arising out of greater output abroad. Foreign export subsidies and import restrictions, as well as smaller U.S. production, also contributed to the lowering of U.S. exports.

World Food Crops Mount Steadily, Rice Leading

Steady, and in some cases remarkable, rises in yields of the world's major food crops are reported in the 1957 *Yearbook of Food and Agricultural Statistics,* issued by the Food and Agriculture Organization of the United Nations.

Greatest increase in yields was for paddy rice. From the 1948-52 level, world rice yields rose by about 18 percent. Potato yields rose about 16 percent and wheat, 11 percent. Increased yields of all other cereals, as well as of such important crops as sugar, sweetpotatoes, pulses, and oil seeds, are also reported in the publication.

These increased yields, coupled with rises in areas devoted to production, brought total production of these major crops to a new high level in 1956. The leading grains reached 756 million metric tons; sugar, 42.6 million tons; pulses, 25.1 million tons; oilseeds, 64.9 million tons; and cotton, 7.8 million tons.

The world's most important cereal crop, in terms of quantity produced, continued to be rice, with total production of 215 million tons for 1956.

Tea In Brazil

By WINFIELD C. KING
U.S. Agricultural Officer
São Paulo

Picking tea near Registro, the center of Brazil's growing tea industry. Output now meets country's domestic needs and permits larger supplies for export.

THERE IS a lot of coffee in Brazil —and some tea. Near the little town of Registro in the Valley of the Ribeira River, southeast of São Paulo, tea and coffee plantations can be seen on the same hillside. But how and why the Ribeira Valley became the tea area of Brazil, nobody knows. It may be the climate; certainly, it is the people, for all of Brazil's tea planters are either Japanese or Brazilian-born descendents of Japanese who settled in this region.

While tea has been grown ornamentally in Brazil for some 200 years, it was the first Japanese immigrants, 50 years ago, who brought the plant with them and grew it for their own use. Production gained momentum during World War II, when supplies from the Asian tea-growing countries were short. Brazil had the land, the plants, the climate, and the experienced growers necessary to step up output. By 1940, commercial production was reported in 31 of the 281 municipios (counties) in the State of São Paulo.

Since the war, the crop has all but disappeared except in two municipios in São Paulo and three in Minas Gerais. Acreage, however, has risen from 511 acres in 1944 to 2,158 in 1956, and most of this is in Registro, which accounts for 90 percent of Brazil's tea. The São Paulo State Research Center now has a substation near Registro, which is carrying on research in all phases of tea culture, concentrating on isolating high-yielding strains for propagation.

Brazil grows three varieties of tea: Chinese, Assam, and Minas, the latter resembling both Chinese and Assam and probably a cross of the two. The Assam variety is said to be planted almost exclusively in the Ribeira Valley. A local legend tells of a Japanese who, in 1933, smuggled in 65 seeds of this variety hidden in a loaf of bread. Seed has been the customary method of propagation, and older fields show great variation in leaf size and shape, although the plants are of a uniform ball shape, about 30 inches high.

Brazil's increased output has resulted in domestic self-sufficiency, with home markets absorbing about 500 metric tons a year. Brazil has also been exporting tea for some years. Argentina was the traditional market until 1951, when tea imports were banned. Since then, Brazil has sold tea wherever markets could be found—usually in other South American countries, but with irregular shipments to the United States.

Foreign sales fluctuate considerably. In 1953, shipments totaled 534 tons. By 1956, they had dropped to 199 tons, then in 1957 they were up again —to 395 tons. The main buyers were Chile, 150 tons; Bolivia, 145; the United Kingdom, 40; and the United States, 25.

The question now is what lies ahead for Brazil's tea industry? Officials of the largest processing and exporting cooperative feel that production can be upped to 5,000 metric tons a year; and they have invested in new processing and grading equipment to assure a product of uniformly high quality.

The main concern will be to find markets for increased output. Brazil would like to sell more tea to the United States. The world's second largest tea importer, the United States gets about 75 percent of its supplies from Ceylon and India, but would probably take larger quantities from its neighbor to the south if dependable supplies of quality tea were available.

Adjustments in freight rates and exchange rates might also facilitate shipments to the United States. Recently, the Bank of Brazil increased the tea export exchange rate from cr70 per dollar to cr92 and fixed a minimum export price of cr68 per kilogram. Under this new exchange rate, the United States has already bought one lot of 25 tons and the outlook for further increasing sales is good.

Foreign PRODUCTION NEWS

The **USSR** reports considerable improvement in the quality of its **wool** in the past decade. The proportion of fine and semifine wool to total output has increased from 6 to 40 percent. Large-scale use of artificial insemination may be partly responsible for the increase.

Italy expects a large **walnut** crop of 28,000 tons this season. This is in sharp contrast to the poor quality crop of only 13,000 tons last year. Sorrento walnuts are expected to account for over a third of the crop. Italy is one of the major competitors with the U.S. walnut industry.

Brazil's President will appoint a three-member Executive Sisal Commission to protect and encourage the country's **sisal** industry, which has been increasing in the last few years. Brazil is now second only to Tanganyika in sisal production.

Indonesia—once a **clove** exporter, but currently an importer—has been encouraging clove production. In Sulawesi, 40,000 trees have been planted in the last 2 years and in North Sumatra, a plan to plant 9,884 acres to cloves has been about a third completed. As further encouragement, the government is propagating seedlings for low-priced sale to farmers.

Venezuela plans to build three new **milk**-drying plants as part of its dairy industry development program. Venezuela's output of preserved milk (mostly dry whole) increased 9.5 percent last year over the year before.

Jordan's 1958 **wheat** crop is reported to be far below average. Estimates indicate production of little more than 2 million bushels, compared with 8 million in 1957. The country's minimum food and feed requirements are about 5.5 million bushels a year.

Impressions of Agriculture in the Soviet Union

(Continued from page 4)

additional quantities at bonus prices, and payments-in-kind for work by state-operated machine-tractor stations. Now the machine-tractor stations are in the process of transferring tractors and other machines to the collective farms and shifting their functions to "machinery repair and service," operating on a fee basis. Specified prices are paid by the state for procurement levels of different farm products. The same prices are paid for additional sales to the state. Sales of products above procurement levels can also be made to consumer cooperatives, and on the collective farm markets which are maintained in different cities.

Perhaps these changes in procurement and pricing will serve as incentives for increased output of the products for which increases are sought. Not all types of food are plentiful in the Soviet Union at the present time, but overall food production seems adequate, and plans are under way to increase output. Relatively large carryovers are needed because of the variable climatic conditions. Agricultural leaders are striving hard for increases in meat and milk in order to provide more animal products in the national diet. The rate of increase in these products will depend largely upon their ability to increase feed and forage production; and this in turn may depend upon the incentives to greater effort that are provided for farm people.

Members of the agricultural economics group included the following from the U.S. Department of Agriculture: DR. SHERMAN E. JOHNSON, *group leader, chief economist, Agricultural Research Service;* DR. CARL P. HEISIG, *Farm Economic Research Division, Agricultural Research Service;* LAZAR VOLIN, *Foreign Agricultural Analysis Division, Foreign Agricultural Service;* HAROLD F. BREIMYER, *Statistical and Historical Research Branch, Agricultural Marketing Service;* JOHN W. KIRKBRIDE, *Agricultural Estimates Division, Agricultural Marketing Service; and* HAROLD WINGO, *Motion Picture Service, Office of Information.*

WORLD Agricultural Summaries

Citrus. The 1957-58 citrus season has been marked by increased output in the Mediterranean area and Mexico and sharp decreases in North America. World production of oranges is down 1.5 percent, grapefruit almost 9 percent, and lemons only slightly.

Sesame Seeds. World sesame seed production in 1957, estimated at 1.5 million short tons, was down slightly from 1956 and almost 20 percent from the 1950-54 average. A sharp drop in Communist China's output in the last 3 years is the main reason for the decline.

Sugar. Current estimates confirm an upward trend in centrifugal sugar output. World centrifugal production for the 1957-58 season is estimated at 50.1 million short tons (raw value)—an alltime-high and 9.5 percent above the 1956-57 crop.

Hard Fibers. Total 1957 world output of the three major cordage fibers—abaca, sisal, and henequen—failed to increase for the first time since 1949. A decrease in abaca production was only partially offset by a rise in sisal. Henequen output changed very little. Combined production of about 1,677 million pounds was slightly less than the 1,682 million produced in 1956.

Cheese. Cheese production in 1957 in 24 major producing countries reached an alltime high of 5.7 billion pounds—nearly 4 percent above the previous record, in 1956.

Coffee. The first estimate (June) of the 1958-59 world coffee crop places total output at 58.6 million bags—about 50 million will be exportable. The exportable production estimate is about 15.5 percent above the amount available for export during the 1957-58 season.

Honduras Expanding Plantain Exports

Honduras has sharply upped its production and exports of plantains. Most of the fruit is shipped to the United States to satisfy the demand of Puerto Ricans and other Latin Americans in New York City.

The trade estimates that there is a weekly market for about 10,000 stems (30 pounds each). Production has expanded to 7,000 stems a week and both production and exports are expected to rise until existing demand is met.

Plantains are grown much like bananas and, in Honduras, seem to resist most banana diseases. They need lots of moisture, and work to provide adequate irrigation has been stepped up.

Ireland Seeking Markets For Beef and Cattle

Ireland, in an effort to become less dependent on its traditional market, the United Kingdom, is seeking new outlets for its beef and cattle. Already large shipments of cattle have been sent to Western Europe; and sales of beef to non-U.K. markets, including the United States, have been growing rapidly. During the second half of 1958, Ireland plans to ship 670,000 pounds of beef a week to Norway.

Russians Increase Purchases Of Indian Carpet Wool

The Soviet Union contracted for over 6 million pounds of Indian carpet wool this spring. Ninety percent of the purchases were Bikanere and Vicanere white types, which are among the best carpet wools India produces. Prices ranged from 56 to 70 cents f.o.b.

Russia buys wool on a clean scoured basis rather than the clean fiber basis requested by U.S. buyers. Also, Russian buyers pay only 90 percent against shipment, with the balance payable 120 days after receipt. This is done to facilitate settlement of any claims against the supplier. However, no claims have been made since Russia began buying wool on a large scale in 1956. This fact, coupled with Russia's buying at a time when demand from Western markets was slow, has favorably impressed Indian traders.

U.S. Losing Ground In U.K. Lard Market

The U.S. share of the U.K. lard market was down during January-May 1958 from the same period of 1957. Strong price competition from European suppliers was the main reason for the drop to 52.6 percent during January-May this year from 65.5 percent in the same months of 1957.

Total lard imports by the United Kingdom were down too—from 102.2 million pounds to 94.3 million. Considerably larger supplies from continental Europe failed to offset reduced U.S. and Argentine shipments.

Colombia To Barter Coffee for Steel

Colombia, the world's second largest producer and exporter of coffee, is trying to trade coffee for steel. The Director of Colombia's Department of National Highways has announced a plan to exchange coffee for 26 bridge "structures." The total volume of the transaction will probably range between $2.5 million and $3 million. Such a deal could help Colombia conserve much needed dollars for other imports.

Only bids from European organizations will be accepted and those received so far include one from France, two from West Germany, and two from Communist countries.

Cuba Subsidizing Cigar Shipments

The Cuban Government is subsidizing cigar exports to help manufacturers pay recently increased wages. Credit certificates equal to 4 percent of the value of exports will be issued to manufacturers. These will have a maximum yearly limit of $336,000 and can be applied toward payment of Cuban federal taxes in the fiscal year following their issue. The United States imports about 20 million cigars annually from Cuba, and is that country's second largest foreign market.

Greek Bread Using Limited U.S. Wheat

Greece is continuing to limit to 10 percent the quantity of U.S. Hard Red winter wheat used in flour milling, although this has lowered the quality of Greek bread to some extent.

The 10-percent mixing-rate policy was brought about by the record 1957-58 domestic wheat crop—nearly 59 million bushels—and a recent decline in wheat use at home. It is being continued because the 1958-59 outlook is for another record crop—forecast at about 66 million bushels.

As a result of the increased production and lowered consumption, Greek wheat imports dropped from nearly 400,000 metric tons in 1956-57 to only about 79,000 tons in 1957-58.

United States May Get More Australian Mutton, Lamb

A new agreement, effective October 1, 1958, between the United Kingdom and Australia will allow Australia to ship unlimited quantities of lamb and mutton to markets outside the United Kingdom and the Commonwealth area. In the past, exports to "outside" markets have been restricted by the 15-year United Kingdom-Australia meat pact.

The new agreement will probably enable Australia to ship more mutton to the United States. During 1957, the United States bought about 1 million pounds of lamb and 500,000 pounds of mutton from Australia. So far this year mutton imports have risen sharply and lamb purchases have dropped.

Argentina Boosts Cattle Supports

Argentina, one of the world's largest beef exporters, is alarmed by the rapid decline in cattle numbers and has increased the support price of meat by 35 percent to encourage cattle breeding. The new support prices are intended to match increased grain supports, which are believed to have encouraged a shift from cattle raising to grain output.

Most recent estimates place Argentine cattle numbers at about 41 million head—6 million less than in 1956.

Japan Gets Ex-Im Loan For Purchase of U.S. Cotton

Part of Japan's purchases of U.S. cotton during the new crop year 1958-59 will be financed under a $60-million loan agreement between the Export-Import Bank of Washington and the Bank of Japan. This credit, the tenth such since 1948, will purchase about 400,000 bales at August prices.

In the past crop year, the United States supplied about 1,050,000 bales, or 45 percent of Japan's total imports of about 2,350,000 bales. Of U.S. shipments, the two credits for that year covered some 650,000 bales. The U.S. share for 1957-58 may run smaller.

Australia's Cattle Exports Show Strong Increase

Australian cattle exports rose by nearly a third in the marketing year recently ended—from 18,360 head in 1956-57 to 23,933 in 1957-58.

Main market for Australian cattle is the Philippine Republic, which took 80 percent of the shipments. These animals will be slaughtered to provide meat for Philippine tables. The Philippine livestock industry, though expanding with the help of imported breeding stock (some from the United States), cannot yet supply domestic meat needs. And a dollar shortage limits imports of U.S. meat.

Canada Breaks 5-Year Record For Wheat and Flour Exports

Canada's exports of wheat and flour in 1957-58 (July-June) were the largest in 5 years—316 million bushels.

Substantial shipments went to Communist China, in contrast to none the previous year. Shipments to the Soviet Union tripled. India and Ceylon got sizable amounts to compensate for drought damage to rice and other late grains. Australia, where drought cut the wheat crop to half of normal, had to import for the first time in years. Canada also increased its exports to its top buyer, the United Kingdom.

Since 1949, Canada has cut wheat acreage sharply; yet rising yields have boosted output. Of the last 5 crops, 2 were large, 1 was bumper.

India Expects 1958 Market For Cashews To Be Good

The Indian trade forecasts 1958 exports of cashew nut kernels at 1.6 million 50-pound cases—75,000 more than in 1957. India will balance a shorter crop by larger re-exports from East Africa. Of total exports, the Indian trade estimates that the United States may take 1.2 million cases and the Soviet Union about 200,000.

The forecast for larger U.S. imports in 1958 could be borne out by January-May shipments, which were running 51 percent higher than the year before. The use for cashews in the United States is in mixed nuts, where proportions vary with the price of cashews and domestic supplies of other tree nuts and peanuts.